# Vulnerabilities and capacities in climate change mitigation and adaptation and disaster risk reduction: addressing structural drivers, impacts and empowerment of affected populations

# 4.




## A. Introduction

This chapter explores the structural drivers of vulnerability to climate change and disaster risk, and the impacts when risk is realized, including the relationship with distress migration within the sustainable development paradigm. Drivers of both vulnerability and impacts are analysed across different population segments, sectors, occupations and geographies, to the extent data is available. Although the Arab region is prone to multiple hazards, this chapter focuses on droughts and floods in rural and urban contexts, due in part to their high significance and the availability of data. Drawing on analysis of progress and lessons from good practices at regional, national and community levels, the chapter identifies areas where vulnerabilities might be sustainably reduced, resilience built and the capacities of different population groups to respond to climate change, disaster risks and distress migration enhanced. The analysis is underscored by a nexus approach that addresses the connectivity between these issues and that bridges the humanitarian and development agendas.

## B. Framing the discourse on climate and disaster-related vulnerabilities and impacts within the sustainable development paradigm

### 1. Discourses on climate change and disasters

The planet is in multiple, related crises: degraded ecosystems, climate change, the COVID-19 pandemic, disasters, water and energy deficits, food scarcity, increasing impoverishment and distress migration. The discourse on climate change originated in the biophysical sciences, with a focus on numerical models, geoinformation science technologies and computer visualizations of climate processes, and on global warming, rising sea levels, melting glaciers and extreme climatic events. These approaches largely obfuscated the role of social sciences, socioeconomic-political processes and human action in climate change,[208] and assumed homogenous impacts on people. Alternate discourse on anthropogenic climate change, climate justice and human rights advance intrinsic links between planetary crises that threaten sustainable development[209] and ensue from a lack of it. These discourses are pervasive in the Arab region.

The discourse on disaster risks likewise framed disasters as hazardous "natural environmental phenomena". It changed to recognize human action as causing hazard-related risks, and defined disasters as the impact of hazards, mediated by structurally determined exposure and vulnerability.[210] Exposure, vulnerability and risk to hazards can be reduced by socioeconomic and political action to strengthen disaster resilience.[211]

### 2. Framing discourse within the sustainable development paradigm

Anthropogenic discourse on climate change, and vulnerability-resilience paradigms on disasters, assert that environmental degradation, climate change, disaster risks and their impacts largely ensue from unsustainable models of development. These models prioritize production, consumption and distribution for immediate economic gain over a fairer distribution of risks and benefits from the use of resources, social and environmental sustainability, health and well-being.[212] These discourses agree sustainable development is best achieved through governance and accountability that combine growth with equity, and holistic development that builds social-economic-environmental system resilience in an interactive manner through mitigation and adaptive action, sustainable financing, technology transfer, capacity-building, economic diversification, sustainable production, consumption and natural resource management.[213,214] They assert that governance systems could benefit from prioritizing the most vulnerable,[215] and that mainstreaming valuable local knowledge, resources, lifestyles and practices would preserve ecosystems, and strengthen community engagement and resilience.[216]

Development in the Arab region could be more sustainable. It currently exhibits the highest levels of wealth concentration and income inequality worldwide, with the top 10 per cent of the population holding more than 60 per cent of the national income.[217] Despite periods of positive economic growth, incomes of the poor have improved only marginally. The regional unemployment rate in 2016 was 10.3 per cent, the highest globally and almost double the world average.[218] While most of the region's poor live in climate-sensitive rural areas, agricultural production and consumption could be more efficient and sustainable. Agricultural strategies have not raised productivity or resilience to desertification or floods. Infrastructure deficits, poor investment in technology, water-efficient irrigation and drought-resistant seeds,[219] and maladaptive practices deplete natural resources, increase food loss and amplify climate-disaster risk and vulnerability. For example, forests as a proportion of land area have fallen by 25 per cent regionally since 1990[220]

208 Cohen and others, 1998.
209 Sweden, Ministry of Foreign Affairs, Commission on Climate Change and Development, 2009.
210 Kelman and others, 2016.
211 UNDRR, 2002.
212 Adams and Luchsinger, 2009.
213 United Nations, Department of Economic and Social Affairs, 2015, paras. 20, 27–29, 33–34, pp. 6–9, 13–14; United Nations Framework Convention on Climate Change, 2015, articles 6 (8), 7(e), p. 8 and 11.
214 United Nations, Department of Economic and Social Affairs, 2015, paras. 2–3, 28 and 41.
215 United Nations Framework Convention on Climate Change, 2015, para. 11, p. 2.
216 Ibid, article 7, para. 5, p. 9.
217 World Inequality Lab, 2018, note: The Arab countries included are Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, the State of Palestine, the Syrian Arab Republic, the United Arab Emirates and Yemen. Iran (Islamic Republic of) and Turkey are also covered. UNESCWA and FAO, 2017.
218 UNESCWA, 2020b.
219 ANND, 2019.
220 Calculated by UNESCWA based on World Bank, 2015, p. 190.

because commercial interests encroach on fragile natural habitats, because wood is harvested to produce charcoal (an income-earner for 70 per cent of low-income pastoralists) and because of poor restrictions on biomass use and intensive grazing in some countries.[221] Ensuing climate and disaster risks will thus cause a further loss of harvests, livestock, livelihoods, employment and food and water security, and a reduction in agricultural output.

The urban Arab population more than quadrupled between 1970 and 2010, and is forecast to more than double again by 2050.[222] Investment deficits in rural development and climate-disaster-resilience, combined with conflict, have contributed to urban migration, altering lifestyles and resource use. This will widen the region's food production-demand-consumption gap, given food production is already declining as agriculture loses land and people. It will further stress strained economic and social infrastructure and services, including employment, credit, land, food, water, sanitation, housing, education and health.[223] Rising urbanization in the region has led to land reclamation, and encroachment on agricultural land and natural habitats, depleting biodiversity.[224] Unsustainable urban production and consumption is exhausting natural resources, generating toxic wastes and emissions and disposing of them in an unsafely manner,[225] thereby increasing climate and disaster risks and impacts.

Unsustainable development leads to multidimensional poverty,[226] rural and urban, that erodes human capability and constitutes a key vulnerability to climate change and disaster risks that exacerbate it. Another impact of skewed development, climate change and disaster risks is distress migration. The IPCC noted, "the gravest effects of climate change may be those on human migration as millions are displaced by shoreline erosion, coastal flooding and severe drought";[227] conflict in the region exacerbates migration.

Trend reversals can only follow from building resilience to these drivers. Focus is best placed on multidisciplinary, nexus approaches that (a) address the structural drivers of vulnerability to climate change, disaster risks, distress migration and their impacts, strengthen climate and disaster risk-migration and resilience and pre-empt humanitarian crises, as an integral part of sustainable development, and (b) provide effective protection avenues for forced environment-related migration, and integrate displacement and humanitarian considerations into CCA and DRR-related strategies. This requires expanded multisectoral-stakeholder partnerships that include migration, gender equality and development partners for coherent and amplified impact.[228]

Poverty and inequality, exacerbated by environmental crises and distress migration, are framed by age, sex/gender, economic, ethnic/racial, nationality and migration status, health/well-being, and sectoral, occupational and spatial locations. These interacting vulnerabilities also interface with socially mediated agency at one end of a continuum and extremely negative survival strategies at the other. It is these priority groups highlighted in the Sendai Framework[229] and the Paris Agreement[230] – women, children, youth, persons with disability, older persons, indigenous persons, migrants – that this chapter addresses regarding the structural drivers of vulnerability to climate change and disaster risks, related capacities and impacts, based on data availability.

## C. Overall regional trends in climate change and natural hazards: the broad interface between climatological and socioeconomic-political drivers

The diverse Arab region, located in the arid horse latitudes,[231] has historically experienced harsh weather conditions; poor rainfall, water scarcity including the lowest endowment in freshwater resources globally, frequent floods, extreme

221 UNDP, 2018a.
222 UN-Habitat, 2012.
223 UNESCWA, 2020b.
224 Ibid, p. 190.
225 Ibid.
226 Alkire, n.d, cited in OECD, 2015.
227 IPCC, WMO and UNEP, 1992.
228 D'Cunha, 2019.
229 United Nations 2015c, para. 36(a), p. 23.
230 United Nations 2015b, preamble, para. 11, p. 2.
231 The horse latitudes are subtropical latitudes 30 to 38 degrees north and south of the equator and characterized by calm winds and low precipitation. See https://oceanservice.noaa.gov/facts/horse-latitudes.html.

temperatures and droughts.[232] These have converged with socioeconomic-political processes to make the region, and its diverse population, among the most vulnerable worldwide to climate change.

The average temperature in the region has increased by 1.5°C over pre-industrial levels,[233] with projected increases of 5°C in some parts by the end of the century. The consensus is that rainfall will decline,[234] with the highest drop likely in North Africa along the Mediterranean Sea. The Moroccan highlands could see a decline in rainfall of up to 40 per cent by the end of the century.[235] The global mean sea level could rise by 26 cm to 82 cm over the same period as a result of climate change.[236] Extreme climate events are predicted to increase and worsen. While the number of disasters globally has almost doubled since the 1980s, in MENA the average number has tripled.[237] Africa has recorded its nine hottest years since 2003.[238] Severe droughts are occurring annually or biannually, from a six- to eight-year frequency. Increases in humidity and temperature triggered tropical cyclones in the Arabian Peninsula in 2007 and 2010 and are predicted to recur. Single cyclones with heavy rainfall are likely to skew average annual rainfall.[239] The World Bank indicates that multiple hazards threaten several of the countries examined in its study of natural hotspots;[240] for example, 43 per cent of Somalia's land area, home to 54 per cent of the population, is acutely exposed to floods and droughts.

## D. Structural drivers and impacts of climate change and disaster risks with respect to different population groups

The Arab population is diverse, resulting in a differentiated experience of inequality, poverty, climate change, disaster risks and migration. These groups, rural or urban, consist of women, children, informal workers, youth, older and indigenous persons, those with disabilities, migrants and refugees. Regional intergovernmental institutions, international organizations, national governments and CSOs, recognizing the severity of the problem, including silo approaches, have begun addressing the issues.

Arab governments endorsed five Arab voluntary stakeholder group action plans on DRR at the Africa-Arab Platform on Disaster Risk Reduction in October 2018.[241] The groups were established under the aegis of UNDRR.[242] The action plans, supporting governments to implement the Sendai Framework, seek to generate knowledge on DRR in their thematic areas; support the design, finance and implementation of DRR policies, plans and programmes targeting Sendai priority groups; build the capacity of government and civil society for greater DRR engagement; ensure DRR stakeholders – women, youth, scientific community and CSOs – working on DRR and the humanitarian response are represented on DRR policy mechanisms; and engage globally on DRR.

Besides these common themes across plans, the group on gender links gender, DRR, CCA and migration in its work, while the science and technology group looks to mainstream DRR into Master's degree syllabuses in regional institutions. While results have varied, advocacy achievements at regional normative levels have been best, ensuring that science and technology issues, and the vulnerabilities and capacities of women, children, youth, older persons, people with disabilities, local communities, migrants and displaced people, were addressed in the deliberations and outcomes of regional meetings.

232 UNDP, 2018a.
233 UNESCWA and others, 2017a.
234 Ibid.
235 Ibid.
236 IPCC, 2014.
237 World Bank, 2014.
238 National Centers for environmental Information, Climate at a Glance, Global time series. Available at https://www.ncdc.noaa.gov/cag/global/time-series/africa/land/12/12/1998-2016.
239 AGEDI, NCAR and the Climate Change Research Group, 2015.
240 Dilley and others, 2005
241 UNDRR and African Union, 2018.
242 Made up of experts/organizations who organized themselves to support governments in implementing the Sendai Framework and the Arab Strategy for Disaster Risk Reduction 2030. They complement government efforts to achieve the outputs in the prioritized action plans. In 2021, the groups will revise their voluntary commitments to support implementation of the upcoming Prioritized Action Plan 2021-2024, and deliver them at the Fifth Arab Regional Platform for DRR. The groups are the Arab Science and Technology Group (chaired by CNRS), Gender Equality and Women's Empowerment in Disaster Risk Reduction, Climate Change and Migration (originally chaired by UN Women and now co-chaired by UN Women/AWC), Children and Youth (chaired by United Nations Major Group for Children and Youth/Children and Youth International), Civil Society (co-chaired by RAED and HelpAge), and Red Cross Red Crescent Group (chaired by IFRC). See http://www.undrr.org.

## Box 4.1 *Somalia's Recovery and Resilience Framework 2018*

In February 2017, with half the population – 6.2 million people – in crisis, Somalia's drought was declared a national disaster. The Recovery and Resilience Framework (RRF),[a] developed the following year, recommended long-term solutions that address the root causes of drought and famine. The RRF promoted integrated policies and strategies for recovery, resilience and DRM, encompassing development priorities that are climate-smart, environmentally friendly, gender-sensitive and address the drivers of displacement.

Interventions included: (i) increased productivity in agriculture by enhancing access to inputs, rehabilitated infrastructure, markets and finance; (ii) reversal of drought-related vegetation loss and soil erosion, improved household food, energy, water, sanitation and health security, including through rehabilitated/constructed infrastructure, emergency response and immunization of children and pregnant women; (iii) gender and social inclusion; (iv) access by displaced people and migrants to socioeconomic support and integration services; and (v) reduced exposure to disaster risks via pre-positioned emergency supplies and access to DRM information and early warning. The strength of the RRF lies in its integration across prioritized sectors, preventive focus on resilience building and immediate rehabilitation and recovery, better data, and the development of government capacity to manage a recovery programme, while at the same time engaging with affected and vulnerable communities to incorporate their priorities into the Drought Impact and Needs Assessment (DINA) and action plan.

a Somalia, Government of Somalia, 2018a.

The aforementioned groups, and their priorities and capacities, are often excluded from policies, programmes and budgets, leaving them further behind, their pre-existing inequalities and vulnerabilities exacerbated in climate crises. But they have also demonstrated an ability to cope, recover and reconstruct their lives and communities. They deploy their local knowledge, values, perspectives, skills, leadership styles and social networks to survive, mitigate, adapt and develop resilience to climate change and disasters.

## 1. Women and girls

Anchored in gender roles and trait stereotypes, with gender relations weighted against them, women and girls bear disproportionate impacts of climate change and disaster risks relative to men and boys. These largely diminish women's contribution to climate risks, but also reduce their climate-disaster resilience compared with men. Gender interacts with other inequalities privileging men, but also among women, based on age and well-being, race/ethnicity, location, civil, household, economic, nationality and migration status.[243]

Arab countries rank last in the World Economic Forum's Gender Gap Report.[244] Arab women's economic participation – 25 per cent in 2015 – is the lowest globally.[245] In 2017, the aggregate rate of women's unemployment in the region was 18.9 per cent versus 7.6 per cent for men. Women's labour force participation rate was 21 per cent, compared with 74 per cent for men,[246] with 38 per cent of women workers in vulnerable employment,[247] and excluded from social insurance. Women are overwhelmingly employed in agriculture, which is more exposed and sensitive to climate change and disaster risks. In Egypt and Iraq, women now exceed 37 per cent and 50 per cent, respectively, of the agricultural labour force,[248] in Morocco and the Sudan the share is 60 per cent, and in Mauritania, 54 per cent.[249] The percentage of female agricultural holders is less than 7 per cent across the region.[250]

243 D'Cunha, 2018.
244 World Economic Forum, 2017.
245 ILO, 2018a.
246 Calculated by the ILO Regional Office for Arab States. See https://ilostat.ilo.org/topics/unemployment-and-labour-underutilization/.
247 Regional values calculated by UN Women based on the latest available country information. According to the ILO, vulnerable employment includes own-account work, and contributing family labour. See https://spring- forward.unwomen.org/en.
248 FAO, 2019c; UNESCWA and FAO, 2017.
249 FAO, 2019b.
250 UNESCWA, 2020b. p. 74.

In their roles as domestic nurturers, small-scale low-emission subsistence farmers and livestock raisers, gatherers of forest products for subsistence, producers, providers and managers of food, water and natural resources, and consumers with lower-carbon lifestyles, women contribute less than men to the depletion of the ecosystem, greenhouse gas emissions and human-created disasters. However, their location at the lower ends of value chains in agriculture, manufacturing and other sectors, and disproportionate marginalization from material and non-material resources, diminishes their climate-disaster risk-migration resilience relative to men.[251]

For example, Yemeni women perform 60 per cent of farm labour, 90 per cent of livestock rearing and 10 per cent of wage labour but own less than 1 per cent of agricultural land, and earn 50 per cent less than men in comparable jobs.[252] In the 2008 tropical storm that hit Yemen, women lost crops, land and daily wage jobs when 22,902 acres of cultivated agricultural land and 51,455 acres of uncultivated land were damaged.[253] Some 3,413 camels, 54,988 sheep, goats and cattle, and 309,000 beehive cells perished in floodwaters.[254] Women-headed households, and small, landless farmers rearing livestock to compensate for poor land-based returns, suffered disproportionate impacts, including lost milk and meat,[255] women and children with meagre earnings from fishing, lost nets, boats and incomes. Further, women engaged in small non-farm livelihoods such as henna decoration, knitting, food processing, kitchen gardening and basket weaving, lost raw materials, equipment, products, stock, animal feed and fertilizers when their homes were extensively damaged. This would have increased production costs the following season.[256] The floods following the tropical storm pushed rural poverty above 40 per cent, especially in the hard-hit Hadramout and Al-Mahara governorates,[257] with starker impacts on women. In the Syrian and Somalian droughts, women's negative coping included selling household and personal items,[258] and undertaking the worst forms of work.[259]

Time spent by Arab women on unpaid work is four to seven times greater than that for men.[260] Combined with paid work, this places a heavy workload on women, affecting their health and well-being, including through time lost for leisure and more productive work. These workloads are intensified by climate and disaster risk impacts. For example, women in 48 per cent of households in drought-impacted Somaliland and 43 per cent of drought-affected households in South Central and Puntland regions became primary breadwinners as men lost jobs, incomes or migrated for better work.[261] In Djibouti, Somalia, the Sudan and Yemen, the loss of forest, water scarcity, desertification and drought have made it more burdensome for women to provide for their families. Women and girls are compelled to walk longer and riskier distances; for example, up to 4 km in the Sudan's West Kordofan State.[262] In Yemen, this additional work has forced girls to drop out of schools, with implications for their overall development and perpetuating gender-based poverty.[263] Nursing and caring for family members with illnesses triggered by floods and droughts further increases women's unpaid care work.

In the 2006–2010 drought in the Syrian Arab Republic, food loss and the increase in food and fuel prices forced negative food-based coping. Food intake for those who were already poor was reduced, especially among all but pregnant women, who were expected to prioritize children and family. The daily diet of bread, tea and sugar provided only 50 per cent of energy and 45 per cent of protein requirements.[264] Acute lack of macro and micronutrients, and drinking water containing high levels of nitrate increased malnutrition and anaemia, especially in women-headed households and older women.[265] Disasters, conflict and displacement have undermined already inadequate health care, including sexual and reproductive health and immunization services in affected countries, and increased the spread of infectious disease and the risk of life-threatening complications for women and girls. Droughts and flooding cause significant diseases and women have contracted cholera, diarrhoea, skin problems, malaria and dengue fever. Maternal mortality ratios driven by bleeding, infections and hypertension during pregnancy are high, with a regional average of 142 deaths per 100,000 live births in 2015, twice the global SDG target.[266] With one of the highest maternal mortality ratios worldwide,

251 D'Cunha, 2018.
252 FAO, 2018a.
253 Yemen, Government of Yemen and others, 2009.
254 Ibid.
255 Ibid.
256 Ibid.
257 Ibid.
258 United Nations, 2009.
259 Fanning, 2018.
260 UNESCWA, 2020b, p. 17.
261 Fanning, 2018.
262 UNDP, 2018a.
263 Assad, 2010; IRIN, 2009; World Bank, 2011.
264 United Nations, 2009.
265 Ibid.
266 UNESCWA, 2020b.

Somalia's drought placed more than 130,000 pregnant women at critical risk.[267] Further, an initial assessment by UNFPA and partners in 2019 indicated that damage and poor access to health facilities and gender-based violence one-stop centres after severe flooding across the country left more than 17,000 expectant mothers, and 20,000 women and girls exposed to violence at risk.[268]

Some Arab countries have shown progress, with more women than men enrolled in university programmes,[269] including in non-traditional subjects. But data from the Arab League Educational, Cultural and Scientific Organisation (ALECSO) put the regional illiteracy rate at about 21 per cent, against the global average of 13 per cent. Female illiteracy is 26 per cent, the highest globally.[270] The gender gap in Internet use in 2017 was 17.3 per cent, 50 per cent more than the global gap.[271] This excludes women from accessing climate-disaster-related early warnings, and household/community preparedness, mitigation and adaptation information. Gendered socialization also increases women's vulnerability. Dress codes, restricted mobility and participation in sports, and limited social interaction with non-familial men prevents women from accessing public information on disasters in public spaces, and from physical activity to save themselves and their children evacuating without male family escorts, or accessing relief items and markets. This impacts female-led households the most as aid and reconstruction asset allocation is often carried out by men to male household heads. At times, local men also hinder aid and development workers from approaching women. All such distinctions, exclusions and restrictions exclude women from equal access to disaster preparedness, and humanitarian and development assistance, reducing their resilience at best, their survival chances at worst.[272]

In the region, as elsewhere, violence against women and girls is an assertion of male power and authority. An estimated 37 per cent of ever-partnered women in some Arab countries have suffered physical and/or sexual intimate partner violence at some point.[273] Child marriage,[274] "honour" crimes[275] and female genital mutilation (FGM) are rife in many countries.[276] Violence increases significantly in disasters and conflict with a disintegration of traditional support systems and rule of law. For example, in the 2016–2017 Somalia drought, the incidence of gender-based violence (GBV) increased 9 per cent between January and April 2017, including cases of physical and sexual assault, and child sexual abuse.[277] Over three quarters of the survivors were internally displaced persons. In the Somalia floods in 2019, cases of rape and sexual assault made up approximately 30 per cent of the total reported incidents between January and September.[278] Hunger and economic desperation in the 2011–2016 Somalia drought and the heightened risk of sexual violence, including in drought-conflict sites, encouraged the perception that child marriage offered girls better protection than parents could provide.[279]

Women are rarely included in public leadership and decision-making on climate change and disasters at regional, national or community level. Nor are different categories of affected women represented on institutional mechanisms for climate and disaster-oriented policy design and implementation. While disaster-related work has typically been perceived as a male domain, this coincides with regional trends in women's leadership and decision-making. Women held 8.3 per cent of managerial positions in 2015,[280] and 19.4 per cent of parliamentary seats in 2018, though the regional average remains relatively low compared with other regions.[281]

But women and girls are also active agents of development. Women's specialized local knowledge of ecosystems – especially rural and indigenous women – can effectively reduce sensitivity to climate and related hazards, by contributing to biodiversity conservation, community resilience and effective adaptation. Tunisia's arid and semi-arid mountainous region of Béni Khédache in Zammour, Tunisia, is vulnerable to drought in summer and heavy winter rains, yet women's conventional practices and knowledge on land use and natural resource management have improved the

267 Somalia, Government of Somalia, 2018b.
268 Somalia, Government of Somalia and World Bank, 2020.
269 Ibid.
270 Romdhani, 2019.
271 ITU, 2017.
272 D'Cunha, 2018.
273 WHO, 2013; UN Women, 2018, covers four, Egypt, Iraq, Jordan and the State of Palestine, as well as Iran (Islamic Republic of).
274 UNESCWA, 2020b, p. 74.
275 UNDP, 2013.
276 Dockery, 2018.
277 Somalia, Government of Somalia, 2018b.
278 Ibid.
279 Development Initiatives, 2019.
280 UNESCWA, 2020b, p. 120.
281 Ibid.

adaptive capacity to climate change and reduced the risks of desertification, drought, water stress and landslides.[282] They have been involved in projects to: increase vegetation planting that has enhanced food availability and reduced carbon emissions; collect rainwater and conserve water through stone-pocket planting;[283] construct small dams on valley slopes and underground brick storage tanks that have reduced water stress; and restore and plant local species of fruit trees, preventing soil erosion and landslides, and preserving mountain ecosystem biodiversity. Likewise, rural women in the southern region of the Syrian Arab Republic possess valuable knowledge on indigenous plants and herbs, and their uses in food or for medical purposes, including for illnesses related to climate change and disasters.[284]

Urban and rural women as formal and voluntary health workers, unpaid and paid caregivers, are front-line responders in natural and human-made disasters and pandemics. During the COVID-19 crisis, the majority of health and social service workers at the forefront of the medical response have been women in the MENA region,[285] and the Arab States as a whole. In the MENA region, most of the female workforce is in nursing. Women comprise 90 per cent of the nursing staff in Egypt, and 80 per cent in Lebanon.[286] As unpaid caregivers and paid domestic workers, including migrant domestic workers, women look after family members with COVID-19 or other health issues, and older persons at home.

Arab governments have since 2008/2009 increasingly recognized women's vulnerabilities and capacities in climate adaptation in nationally prioritized sectors, such as water, energy, agriculture, food security, and waste reduction and management. National assessments, research and dialogue between women's organizations and government ministries were supported by the International Union for Conservation of Nature (IUCN) and UNDP. Gender concerns are being incorporated in climate policy and action, as recognized in the Arab Framework Action Plan on Climate Change developed by the League of Arab States.[287]

The Global Gender and Climate Alliance, IUCN and the Council of Arab Ministers Responsible for Environment have promoted instruments to mainstream gender in climate action and encouraged integrating national gender concerns in UNFCCC negotiations and its Conference of the Parties (COP).[288] Countries such as Bahrain, Egypt, Jordan and the State of Palestine have mainstreamed gender issues into adaptation policies, while many Arab countries have referenced gender in national communications to the UNFCCC.[289] Jordan, in partnership with IUCN, was a front runner in the region, incorporating gender in climate policy in 2011 with a framework for action and practical policy guidelines on gender mainstreaming and integrated responses.

In Somalia in October 2017, UN Women convened a consultation with women's organizations working in agriculture, disaster resilience, malnutrition, health, child development, peace, humanitarian assistance and protection to ensure women's priorities informed the gender chapter of the Drought Impact and Needs Assessment (DINA), undertaken by the government of Somalia in partnership with the World Bank and the European Union.[290]

The consultation resulted in a Women's Common Charter of Demands that identified key priorities and made recommendations for gender-responsive disaster resilience and drought recovery.[291] Most priorities were well reflected in the DINA, including the collection and use of sex-age-disaggregated data and gender analysis tools and promotion of gender responsive governance, women's leadership and participation, and ensuring gender equality in DRR, economic and livelihood development, and targeted responses to GBV. Further, the Somalia RRF, which was informed by the DINA, identified "gender and social inclusion", as a high-priority sector intervention,[292] with a dedicated budget line of $20.4 million (or 2.5 per cent of the overall budget of $810.2 million).[293]

The initiative generated knowledge on gender equality and women's rights in post-disaster policy and planning, including: (1) women and girls are badly impacted by the drought but play key roles in immediate and long-term recovery. A rigorous quantification of drought impacts on women was challenged by sex-age-disaggregated data

282 UNDRR, 2008.
283 A traditional method of water conservation in which planting is done in stone pockets, which studies have shown reduces evaporation of irrigation water.
284 Kaisi and Alzoughbi, 2007.
285 Boniol and others, 2019.
286 UN Women, 2020a; UN Women, 2020b.
287 Verner, 2012.
288 Ibid.
289 Ibid.
290 UN Women, 2017.
291 Ibid.
292 All sectors listed were deemed high priority sectors.
293 Somalia, Government of Somalia, 2018a.

deficits at minimum, on a variety of key indicators in normal times and during drought; (2) active participation and influence of local women's groups from diverse sectors is critical so priorities of all those affected are embedded in post-disaster resilience and drought recovery strategies; (3) recovery interventions favour displaced women and girls, thus adequate attention must be paid to affected communities who did not migrate so their equally or more pressing priorities are addressed and further internal displacement and livelihood loss avoided; (4) recovery interventions must strike a balance between providing immediate relief and longer term resilience building, especially with respect to resilient livelihoods and entrepreneurship; (5) protection services must go beyond sexual and gender-based violence to protect women's ownership, access and control of resources, especially for women farmers;[294] and (6) costing women's recovery priorities in the DINA and the Somalia RRF, and influencing related budget allocations, are essential to make recovery for women work.

Woman-targeted community-based water management has brought positive multiplier community impacts, including for children. In arid Yemen, as elsewhere, water scarcity and polluted drinking water has disproportionate negative impacts on women and girls, who bear the responsibility for household water management, nutrition and health, and on children. Male urban and cross-country migration as a coping strategy has further increased work burdens on women. In 2008 the German Agency for Technical Cooperation (GTZ), supported a woman-focused community-based water management project in Amran district.[295] It trained more than 7,000 women in water conservation and purification, sand filter use, cleaning and maintenance. Sand filters were widely distributed to schools and mosques, and to NGOs, with the Yemini Women's Union playing an important role in raising widespread awareness on their health benefits. Women's capacity to take part in water management decision-making was built, and young women ran women's literacy classes after being trained to teach adults.

The project registered several positive impacts, including:[296] (a) reducing water-borne diseases affecting children, and health expenditures; (b) women's active participation in the 38 community-led water committees; (c) sensitization of men and religious and community leaders to gender inequalities in climate change, disasters and water-related issues; (d) greater male acceptance of women on these committees and improved interaction between women and men; and (e) addressing the needs of the water sector and raising awareness on cistern management and use via women's participation in committees, which encouraged some women members to take part in local council elections, increasing their access to decision-making.

## 2. Arab children and youth

Children and youth from poor families are more likely to be multidimensionally poor.[297] There are few child- and youth-oriented social assistance schemes, and socioeconomic policies do not normally invest in child development and protection.[298] The share of children at risk of poor development varies, from 78 per cent in Djibouti to 55 per cent in Yemen, 23 per cent in Egypt and 15 per cent in Morocco.[299] Most infants under six months are not exclusively breastfed,[300] causing the highest estimated percentage loss in gross national income (0.98 per cent in Arab and neighbouring countries) due to cognitive deficits in infant feeding practices.[301] Stunting affects 37.6 per cent of under-fives in the Arab LDCs, 22.3 per cent in Egypt in 2014 and 27 per cent in 2009 pre-conflict Syrian Arab Republic.[302] Wasting among children ranges from 3.3 per cent in the Maghreb to 16 per cent in the Arab LDCs.[303] More than 16 million children across the region are out of school, including 10 per cent of primary school-age children, and 32 per cent of upper secondary-age children.[304] More than 18 per cent of Arab youth (10 per cent of males and 27 per cent of females) are not in employment, education or training (NEET).[305] The share of youth with basic ICT skills is less than 20 per cent in LDCs, such as Djibouti and the Sudan.[306]

294 United Nations Entity for Gender Equality and the Empowerment of Women, 2017.
295 Verner, 2012.
296 Augustin and Assad, 2010.
297 A household, and so all its members, is multidimensionally poor if it is deprived in one third or more of the weighted indicators. See http://hdr.undp.org/en/content/what-makes-individual-multidimensionally-poor/.
298 UNICEF, 2017; UNESCWA and others, 2017b.
299 UNICEF and Countdown to 2030, 2019.
300 Victora and others, 2016.
301 Rollins and others, 2016, the regional country grouping is in line with reference.
302 UNESCWA, 2020b. p. 26.
303 Ibid.
304 Calculated by UNESCO, see http://data.uis.unesco.org/.
305 ILO, 2017.
306 UNESCWA, 2020, p. 64.

These indicators have deteriorated amid widespread crises. A higher incidence of malnutrition, anaemia and diarrhoea among under-fives was reported in hard-hit drought-affected Syrian governorates in the period 2006–2010. Stunting rose to 35 per cent and acute malnutrition to 23 per cent.[307] More than 360,000 children were malnourished in the 2017 drought in Somalia.[308] Children, youth and others had higher, aggravated levels of acute respiratory infections and eye irritations due to dust storms in the Syrian Arab Republic,[309] and of malaria, bilharzia and diarrhoea in water-scarce Yemen.[310] Yet with the highest unemployment rates in the world, Arab youth, as other groups, lack access to formal health insurance to pay for rising care and medication costs.[311]

Enrolment in some schools in drought-affected eastern Syrian Arab Republic decreased by 70–80 per cent from 2008 to 2009, due to financial hardship, transport costs and distance, migration and child labour. Girls are often the first to be taken out of school.[312] For similar reasons, in the Somalia drought of 2011–2016, the school dropout rate over six months in one site in Hargeisa district was 33 per cent, while in Togdheer and Mudug only 9 per cent and 8 per cent of households, respectively, reported sending children to school.[313] In the 2019 Somalia floods, and 2008 Yemen tropical storm, the destruction of schools, and their use as shelters and for storing relief materials, interrupted education.[314]

Risky and exploitative child and adolescent labour, such as in construction or transporting goods, increases in affected contexts. As women undertake paid work, girls, particularly, take on more domestic work and are more often left on their own, placing them at increased risk of violence.[315] Protracted drought and conflict in Somalia, put children in Baidoa and Beledweyne at risk of abduction, abandonment and violence, including sexual violence. Children from poorer families were more at risk, including when adults spent time away from home foraging for food. In response, families migrated or sent children to safer locations. Migration is a long-term strategy for Somali youth,[316] and those from other Arab countries.

## *Box 4.2 Child-centred disaster risk reduction in the League of Arab States*

A framework for child-centred DRR (FCCDRRLAS) was adopted in 2015 by the Department of the Family and Child of the League of Arab States, working with Save the Children Fund, via decree 799 D35.[a] The FCCDRRLAS aims to integrate DRM and child protection into several priorities, with related activities across prevention, mitigation, preparedness, response and recovery. These include: (1) assessing the vulnerability of children to disasters; (2) developing institutional, administrative and legal frameworks for child-centred DRR (CCDRR); (3) building and improving resilient infrastructure affecting children's safety, education and health; (4) integrating children's needs, capacities and vulnerabilities into regulations, land-use planning and urban planning; (5) raising awareness and building capacity on CCDRR; (6) integrating children's needs and vulnerabilities, and their capacities, into preparedness, early warning, response, recovery and reconstruction plans; (7) mainstreaming children's participation in meaningful activities; (8) adopting a risk governance framework that applies to all CCDRR strategies, policies and activities; (9) reviewing legislation on protecting and promoting the children's rights; and 10) developing child protection mechanisms.

While addressing the entire disaster cycle, the framework emphasizes corrective risk management strategies for DRR and risk governance, including participation in decision-making related to risk management. Anticipated results include: (1) strengthened child protection pre, during and post disaster; (2) enhanced disaster resilience of education and health sectors, including schools and hospitals; (3) reduced disaster

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307 United Nations, 2009.
308 FSNAU, 2017.
309 United Nations, 2009.
310 Assad, 2010; World Bank, 2011.
311 UNESCWA, 2020b, p. 44.
312 United Nations, 2009.
313 Fanning, 2018.
314 Somalia, Government of Somalia and World Bank, 2020; Yemen, Government of Yemen and others, 2009.
315 Fanning, 2018.
316 Development Initiatives, 2019.

losses, including child mortality, injuries, livelihoods and assets; (4) improved development and sustained gains; (5) reduced regional inequality; (6) improved governance and participation in decision-making, especially for vulnerable groups, including children; (7) improved capacity to respond to and recover from disasters; (8) improved capacity for CCA; (9) progress in implementing international frameworks such as the Sendai Framework, SDGs and Convention on the Rights of the Child (CRC); and (10) creating a generation of children moving into adulthood conscious of the links between development, disaster risk, child rights and protection, and the related challenges and opportunities.

a League of Arab States, 2015.

A regional consultation with children and youth on DRR raised their issues with governments in the Middle East and North Africa, and globally. At least 1,800 children and youth were consulted in nine countries (Egypt, Iran (Islamic Republic of), Iraq, Jordan, Lebanon, Libya, Morocco, the State of Palestine and the Sudan) on building resilience amid disasters, climate change and conflict-related displacement. The resulting messages were endorsed at the regional Platform on Disaster Risk Reduction in September 2014, and the contributions were integrated into the Sendai Framework at the World Conference on Disaster Risk Reduction (WCDRR) in Sendai, Japan, in 2015. The initiative was led by the Coalition of Children in a Changing Climate, UNICEF, Save the Children International, World Vision, IOM and WHO.[317]

## 3. Older persons

Religious and cultural codes in the region emphasize honour, respect and affection for parents and largely influence intergenerational support. Older persons provide a safety net to adult children and their families, often extending financial support to their children. About 34 to 40 per cent of older persons in Algeria, Lebanon and the State of Palestine help with child-raising and domestic tasks,[318] dispelling perceptions they are dependent, passive recipients of care. Normal-time policy initiatives do address abuse and social insurance, but the distinct priorities of older persons in climate crises are largely overlooked,[319] beginning with scant data and analysis.

Ageing, especially for women, the self-employed and informal workers, exacerbates financial insecurity in the absence of universal or comprehensive old age pensions,[320] which accounts for 34 per cent of the Arab workforce.[321] Age-associated chronic diseases such as hypertension, heart disease, cancer, diabetes, arthritis, back pain (as high as 40 per cent in many Arab countries),[322] osteoporosis, anaemia, malnutrition and visual, hearing and mobility problems, especially among the elderly poor, challenge health-care access. Precarious safety nets and economic insecurity force approximately 37–65 per cent of men aged 60–69 years, and 24–47 per cent of women aged 70–79 years in Egypt, Jordan, Lebanon, the State of Palestine and Yemen to continue working,[323] largely informally. Employers or credit institutions specify an upper age limit or demand full physical ability for job or credit access, even if these are not strictly needed for the job, compounding discrimination and economic insecurity for older people with disabilities. Maltreatment prevalence rates among older adults of 1.2 per cent in Lebanon and 5.1 per cent in the State of Palestine,[324] and 42.4 per cent for neglect, 5.7 per cent for physical abuse and 3.8 per cent for financial abuse in a rural community in Egypt,[325] with women more likely to be abused than men.

Normal-time poverty, physical decline, age discrimination and inadequate services impact older people in distinct ways during disasters. The loss of meagre assets, informal jobs, incomes, homes and basic necessities exacerbate poverty. The lack of comprehensive data for the region notwithstanding, data for other countries show a disproportionate number of disaster casualties among older persons[326] and persons with disabilities, especially women. Deficits in age-sensitive

317 Egypt, League of Arab States and United Nations Office for Disaster Risk Reduction, 2014.
318 Kronfol, Rizk and Sibai, 2015.
319 UNESCWA, 2017d.
320 UNESCWA, 2018a.
321 Robalino and others, 2005.
322 UNESCWA, 2017d.
323 Yount and Sibai, 2009
324 League of Arab States, Pan Arab Project for Family Health, "Analysis of survey data", 2008.
325 Abdel Rahman and El Gaafary, 2012, pp. 532–537.
326 HelpAge International, 2019.

DRR planning and action are contributory factors, which HelpAge International says manifest in particular ways.[327] Early warning and information dissemination, often written in small print, exclude those with low levels of literacy and visual problems. Also, many frail older people are reluctant or unable to evacuate, migrate or protect themselves in disasters; they may be raising orphaned, abandoned or left-behind grandchildren alone, simply find it more convenient to stay or lack the means to move. Evacuation planning often excludes their needs, such as elderly identification, arrangements to carry their assistive devices, medicines, appropriate transport and assistance for mobility and other disabilities. For example, when people, en masse, moved as a result of the Syrian 2006–2010 drought, the small stay-behind population largely consisted of old persons and children.[328]

Older persons suffer theft, dispossession, and physical and sexual abuse. The distress and disorientation caused by loss of family, home and livelihood, and sudden changes in social status, cause trauma.[329] Cash and particular nutritional and health needs, such as soft digestible food and supplements for malnutrition, are often not met in general relief and reconstruction efforts. An Oxfam study of 5,577 households across 28 sites in Somaliland and other parts of Somalia in the 2011–2016 drought noted that 28 per cent of households reported women were more likely to be excluded from aid, compared with 22 per cent for men.[330] Older people find it difficult to queue or walk to relief distribution points, or use transport and access structures with steps, especially if they also have other disabilities. Disrupted social networks limit their access to survival and recovery resources, and they are more likely to be excluded from decisions that will affect their future.[331]

But older people constitute a sizeable part of communities and make crucial socioeconomic contributions, including in times of crisis. As survivors of previous disasters, their local experience, knowledge, skills and insights can be very useful in local assessments that incorporate the strengths and needs of older people, ensuring inclusivity. As traditional knowledge-holders, they can provide valuable information on local hazard, risk profiles and sustainable community-based mitigation strategies. As older people may not be as engaged in routine economic activity, they can spend more time on DRR actions and facilitate greater community engagement. They are often a key support to family members, grandchildren and other vulnerable groups, including as caregivers. Moreover, they are strongly motivated to build a safer world for their grandchildren.

These capacities are exemplified in the crisis in the Sudan, where older people, among others, lost jobs, forcing them to rely on aid. Now, rather than simply receiving food or medicine, some are working with HelpAge International and nine partner organizations to ensure aid gets to the neediest older people in communities, by overseeing a network of committees. As well as constructing shelters and water pumps, and registering older people, residents collectively lobby the local government. According to one HelpAge International staff member running a course on participatory planning for 25 NGOs in the Sudan, "strengthening older people to control their lives is key to long-term change".[332]

## 4. Persons with disabilities

The Arab region is largely inaccessible for persons with physical, mental, cognitive or sensory disabilities, despite noteworthy initiatives to improve usability and address stigma and social exclusion.[333] While a sense of social and religious responsibility to persons with disabilities tend to characterize family and clan culture, in Somalia, for example, larger environmental obstacles prevail.[334] Data gaps on persons with disabilities in normal times and in disasters are acute.

In 9 of 10 Arab countries with available data, the employment rate for persons with disabilities is approximately 14 per cent for women, and 34 per cent for men, but frequently far lower.[335] Literacy rates are lower for persons with disabilities regionally, at all education levels, especially post-primary. In Oman, for example, 87 per cent of persons without disabilities are literate compared with 31.2 per cent of persons with disabilities.[336] Women and girls with disabilities are

327 Ibid.
328 ACSAD and UNDRR, 2011.
329 HelpAge International and UNHCR, 2000.
330 Fanning, 2018.
331 HelpAge International, 2019.
332 HelpAge International and UNHCR, 2000.
333 UNESCWA, 2018b.
334 Development Initiatives, 2019.
335 UNESCWA, 2018b.
336 Ibid.

even more excluded from education, especially in rural areas. Students with disabilities face discriminatory treatment, poor transport and road infrastructure, and inaccessible educational facilities and content.[337] Special and different health-care needs are inadequately addressed. Access challenges intensify with other intersecting inequalities, including those affecting migrants, refugees, rural populations and others. Costs and data deficits on available services exclude persons with disabilities from health care.[338] Region wide, they face physical barriers to mobility, including narrow doorways and high curbs limiting public access, which entrench their exclusion.

Qualitative evidence highlights the priorities of persons with disabilities in climate crises and migration, given data deficits. According to the Center for Disaster Philanthropy, early warning systems are seldom disability-sensitive and more focused on audio-video or televised messages without sign language, captions or audio descriptions for those with hearing, visual or other disabilities.[339] Evacuation planning often excludes their needs; for example, identification, arrangements to carry their assistive devices, service animals, medicines, appropriate transport and assistance.[340] In Somalia's 2011–2016 drought, persons with disabilities were often left behind when others fled as they could not move on their own and families often lacked the strength or means to assist them. Even when humanitarian assistance arrived in south central Somalia, those surviving were not reached in time. Local leaders would sometimes withhold information about their food allocation entitlements, and as many of the caring families dispersed, people were left without support. Some fleeing families lied to persons with disabilities who could not be easily transported, saying they would explore transport for them.[341] Where food and humanitarian assistance reached them, as in Beledweyne and Kismayo, it was stolen. The situation was worse for those persons with disabilities in IDP camps or those who belonged to minority groups or who were separated from families. One third of households said that physically disabled women and widows were likely to be excluded from distributions versus 25 per cent of men. Persons with disabilities, especially women and children, were also more vulnerable to violence due to their reduced ability to defend themselves.[342]

High poverty rates limit the ability of persons with disabilities to prepare for disasters. Shelter infrastructure may not be disability sensitive, lacking mobility features, sanitation infrastructure, refrigeration for medicines and power to charge assistive devices, while access to drugs, daily living assistance, basic hygiene and mental and health care for chronic conditions may be interrupted. Damage/needs assessments and reconstruction efforts tend to exclude their needs, including assistive devices, rehabilitation services, accessible shelter, housing, food, water, medical emergencies and mental health services.[343] Exclusions can increase abuse, mortality or morbidity rates for persons with disabilities. Carers and persons with disabilities coped differently in the drought in Somalia. Those with mental challenges were hidden from outsiders or shielded from stressful events.[344]

Despite this, there were also good community-based practices. In Kismayo and Beledweyne, for example, community groups ensured that information, and humanitarian assistance and services reached persons with disabilities.[345]

## 5. Migrants

In 2017, women constituted 32.8 per cent of the migrant and refugee population in the region, almost half in the Mashreq region (49.7 per cent) and Arab LDCs[346] (48.3 per cent), 35.3 per cent in the Maghreb and 27.6 per cent in GCC[347] countries. This reflects the proportionally higher number of men who migrate to work in the Gulf and the Maghreb, in contrast with the more conflict-induced displacement in the Arab LDCs and Mashreq, which is more evenly gender-distributed. For example, in Jordan and Lebanon, which host huge refugee and displaced populations from the State of Palestine and the Syrian Arab Republic, women represented 50 per cent and 52 per cent of these groups, respectively. More than 84 per cent of forced migrants in the drought in Somalia were women and children under 18 years. In GCC countries, however, the number of women migrants range from 16 per cent in Oman to 32 per cent in Kuwait. Working-age men and women aged 25 to 64 years were 49 per cent and 19 per cent, respectively, of all migrants and refugees in

337 UNESCWA, 2020b.
338 Baroud, 2017.
339 Center for Disaster Philanthropy, 2020.
340 Ibid.
341 Development Initiatives, 2019.
342 Ibid.
343 Center for Disaster Philanthropy, 2020.
344 Development Initiatives, 2019.
345 Ibid.
346 Including Comoros, Djibouti, Mauritania, the Sudan and Yemen.
347 Including Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates.

the region. Children aged 0–14 years and young people aged 15–24 years represented 18 per cent and 12 per cent of the region's migrant and refugee population.[348]

Migration in the region happens for a variety of reasons, marked by greater or lesser degrees of freedom or force of circumstance along a continuum. This is best exemplified in the case of poor communities, whose decisions to move are mediated by multidimensional poverty and other related factors. That said, the past 15 years show a clearer link between climate change, disasters and migration, underscored by an investment deficit in resilient development.[349]

Depending on the context and nature of hazard, migration trajectories vary in terms of length of time (very short-term, temporary, cyclical, long-term), autonomous or familial (male migration, women moving independently or with children, or entire families) and internal or international (to cities in-country or across national boundaries).[350] In the Sahel sites of Mauritania each major drought has triggered large-scale migration to cities. Nomadic households have moved in droves to Nouakchott and Nouadhibou, where deeper wells reach the groundwater; between 1970 and 2000, Nouakchott's population jumped from 40,000 to more than 700,000.[351] In the Syrian Arab Republic, seasonal male migration for jobs occurred yearly, while women propped up household and rural economies at home. The multi-year Syrian droughts made migration within or across the country semi-permanent or permanent, with men, for instance, migrating to Lebanon and Jordan as construction or agricultural workers, and women moving independently to western Syrian Arab Republic as vegetable packers,[352] or with families migrating semi-permanently or permanently to Syrian cities such as the outskirts of Damascus.[353] Somalia's protracted drought pushed some four million people into urban areas, semi-permanently or permanently.[354] More than 84 per cent of these people were women and children under 18 years. Between October and December 2019, floods displaced 410,000 people, who returned to previous communities or IDP settlements but required immediate support.[355] Under the clan system of Somalia, migration indicated a failure to protect members and diminished ties. The migrant people were therefore exposed to greater risks except where remittances from employment were forthcoming.[356]

Impacts vary for different segments of migrants and those left behind. Women are more marginalized from access to information and pre-departure training, or they are subject to policies and/or social norms that deter, or face age, country or occupation-based restrictions on their out-migration, thus enhancing trafficking and exploitative recruitment. Traffickers have intentional strategies and gender profiles of poor men and women, and scour climate-disaster sensitive, underdeveloped migrant sites for "clients". Women have no assets, or fewer assets than men, to pay for migration costs and tend to move and pay later, thus falling more easily into debt bondage. There are fewer legal and decent jobs for women at destination sites. Domestic work, often not legally or socially recognized as work, employing a critical mass of poorly skilled women, violates their human rights. Contract substitution, appropriation of travel documents, non-payment of wages already lower than those paid to men, lack of access to health care, restrictions on mobility and interactions, sexual and other forms of violence at all stages of migration, and the lack of women-sensitive reintegration policies and remittance and productive investment policies affect both men and women migrants, with disproportionate impacts on women. Where men migrate and women are left behind, they become the de facto head of household and the sole on-site providers for families. Their workloads and stress increase in a difficult context. If remittances are never sent by men, or sent irregularly, women are even more precariously placed. But many times, the new roles they have to play enhance women's self-esteem, confidence and decision-making, and if sustained can potentially transform gender relations.[357]

Quick onset disasters forcing unplanned large-scale movement to urban settlements or IDP camps strain resources and the job market at host sites already affected by existing refugees, such the one million Iraqi refugees who fled to the Syrian Arab Republic. It also places the left-behind older people and children in dire straits. In spontaneous settlements in western Syrian Arab Republic inhabited by climate migrants, many lived in tents. Weak services and basic necessities continued to threaten the health and lives of children and other vulnerable groups already suffering from poor nutrition and disease, and also the privacy, safety and security of women and girls. In new settlements, children worked with

348 UNESCWA and IOM, 2020.
349 D'Cunha, 2019.
350 Ibid.
351 United Nations Human Settlements Programme, 2017b.
352 United Nations. 2009.
353 Ibid.
354 UNDP, 2018a
355 Somalia, Government of Somalia and World Bank, 2020.
356 Development Initiatives, 2019.
357 D'Cunha, 2019.

their parents in the fields, most not attending school.[358] Research covering 5,577 households in 28 sites for internally displaced people across ten regions in Somaliland and Somalia showed that men affected by the drought commencing in 2015 struggled even to find physically demanding and hazardous jobs on construction sites, digging and breaking stones, or shining shoes or selling khat in new sites. Women and girls found jobs as domestic and laundry workers, cleaners, street hawkers, cooks, tailors, garbage collectors and construction workers in new sites that they moved to, while they continued to bear the responsibility for unpaid care work. In some instances, for lack of options, women had to succumb to the worst forms of labour and trafficking.[359]

Settlements for internally displaced persons are often not woman or child friendly. They are frequently most at risk, with incidence of sexual and gender-based violence and trafficking linked to poverty, congestion and poor camp security, as well as long distances between food, water and sanitation facilities. For example, in Somalia, additional protection risks for children include family separation and child recruitment, arbitrary arrest, early marriage, lack of education access or drop out, hazardous child labour and elevated exposure to forms of GBV, including assault, trafficking and psychosocial distress.[360]

However, many women migrants have overcome experiences of violation and joined with migrant NGOs, thereby developing self-esteem, confidence and the ability to negotiate public policy and decision-making on their rights and entitlements.[361] The monies migrant women have saved have served as social safety nets, contributed to family and community well-being, enhanced human capital and contributed to poverty reduction.[362]

Good migration governance across the migration cycle, coupled with gender-responsive sustainable development, can enhance the resilience of women migrant workers and those from male migrant households who remain at home, and benefit their families and communities, and the countries of origin and destination. Over the past 15 years, several Arab governments have, for example, introduced some form of protection for women migrant workers. These range from policies, decrees, instructions, reforms in labour law and codes, to contracts protecting the labour rights of women migrant workers, notably domestic workers, including changes to the kaffala system that monitors migrant workers and regulations for recruiting agencies. Programmatic initiatives such as PPPs in e-recruitment systems, pre- and post-arrival information dissemination, job competency standards for domestic workers, wage protection systems, flexi visas and online remittance transfers are at varying stages of design and implementation in the Gulf countries.[363] Evidence shows, however, that policy-practice gaps exist.

Climate-smart government strategies for rural women and youth, including migrant households, in the High Atlas region of Morocco, have empowered these groups. The region largely has smallholder farms and is increasingly exposed to climate-related temperature and rainfall changes. While men have migrated for seasonal work in herding and trade, women have always done unpaid care work and half of the agricultural work. With men's increasing and longer term migration, the women have been left to manage the fragile climate-sensitive mountain ecosystem.[364] The Ministry of Agriculture is now working to empower them, and draw on their capacities. The 2020 Rural Development Strategy, which focuses on recognizing women farmers "as producers and managers of ecosystems", has been enhancing women's skills, promoting the use of biogas and solar energy rather than wood-fuel and training them to dig wells with manual pumps. This has improved agricultural practice, reduced workloads, helped diversify their livelihoods and increased their incomes.[365] In semi-arid south Morocco, where households also own small land plots, the ministry has drawn on local knowledge and practice, effectively enabling youth and women to improve livelihoods and earnings through the value-added production of the pear cactus, an ecosystem preserver with nutritional, medicinal and cosmetic properties. Its Green Morocco Plan has expanded the cultivation area, and trained women to produce cactus jam and extract oil for use in highly priced cosmetics. The small-scale production of pear cactus is assuming industrial proportions, raising women's incomes and status, with multiplier impacts for their children and communities.[366]

358 United Nations, 2009.
359 Fanning, 2018.
360 Somalia, Government of Somalia and World Bank, 2020.
361 Cross-Regional Centre for Migrants and Refugees, see http://crossregionalcenter.org/.
362 D'Cunha, 2020.
363 Ibid.
364 Messouli and Rochdane, 2011.
365 Ibid.
366 Ibid.

## E. Gaps in mainstream interventions

Despite progress, mainstream interventions on climate change, disasters and migration are marked by a spectrum of gaps.

### 1. Treating communities as homogenous

Communities are largely regarded as homogenous, with inadequate attention paid to the specific concerns of priority population segments, such as women, children, youth, persons with disability, older persons, indigenous persons and migrants, as highlighted in the Paris Agreement and the Sendai Framework.

### 2. Lack of disaggregated data on Sendai priority groups related to climate change and disasters

Disaggregated data and analysis exist on climate-sensitive and disaster hotspots, vulnerable economic sectors, and to some extent, broader population groups within these sectors, such as poor rural people and herders/pastoralists. However, there is a lack of readily available disaggregated data in national and regional statistical databases[367] or research by governments and/or international organizations in the region on the specific concerns of priority groups highlighted in the Sendai Framework. For example, while the global average of women being 14 times more likely than men to die in disasters is widely cited, data disaggregated by sex and age at minimum on disaster deaths in Arab countries and regionally is unavailable. Likewise, damage and loss databases related to physical, socioeconomic and other assets and infrastructure lack data disaggregated by sex, age and other indices of marginalization.

### 3. Policies, programmes and budgets inadequately informed by specific priorities of vulnerable groups

The region has important regional policy frameworks on climate change and DRR. These include the Arab Framework Action Plan on Climate Change for 2010–2020 to ensure climate-resilient development, and the ASDRR 2030.[368] At national level, 16 countries have updated their national biodiversity strategies and action plans, 21 have some form of climate policy, regional and national policies or plans and programmes on climate change, five have DRR strategies,[369] and others have migration strategies. But these national policies and plans are unevenly developed across the region and inadequately informed by the specific priorities and differential needs of women, children, youth, persons with disability, older persons, indigenous persons and migrants. They often lack feasible targets, indicators and robust budgets, and are seldom anchored in sustained institutionalized consultations with vulnerable populations and their support groups. Where they do address the priorities of marginalized groups, as in the field of climate change, key groups such as persons with disabilities and older persons continue to be excluded, coverage of groups such as vulnerable women does not always address critical priorities, and implementation falls short for a slew of reasons. Finally, it is not clear from the review of national DRR strategies how many countries have addressed the priorities of women, let alone other priority groups highlighted in the Sendai Framework.

### 4. Silo approach to addressing vulnerable groups within these agendas

Although the Paris Agreement, the Sendai Framework, the SDGs and the UN Global Compact for Migration (UNGCM) have reiterated the need for synergies, the related national and subnational policy and programmatic formulation and implementation regarding vulnerable groups have been pursued in silos. For example, while development plans in most countries cover agricultural and pastoral production, few specifically address climate change and environmental concerns. Seldom are the specific priorities of migrants, including women migrants, addressed in national adaptation plans on climate change or national disaster laws and strategies. Similarly, seldom are climate adaptation and mitigation provisions for women, for instance in agriculture, reflected in national disaster strategies, or vice versa.

367 Case studies, or smaller more localized research, notwithstanding.
368 UNDP, 2018a.
369 Communication by Arab governments at 5th Arab Partnership Meeting, organized by UNDRR, November 2020.

### 5. Inadequate engagement of vulnerable groups in multisectoral and multi-stakeholder collaboration

There is a lack of adequate vulnerable group engagement in multisectoral and multi-stakeholder collaboration. For example, several countries have multi-ministerial mechanisms to design national climate adaptation plans, national determined contributions, national DRR strategies or migration policies and plans. Often, however, national women's machineries are not a member of these mechanisms, although women: (a) play a central role in food, water, energy and natural resource management; (b) are themselves migrants, or hold up household and fragile economies and ecosystems when men have migrated; (c) are disproportionately impacted by climate change, disasters and distress migration; and (d) are often front-line service providers. Moreover, stakeholder groups tend to either be climate change or DRR specialists, decision-makers and practitioners to the exclusion of broader development actors working on gender equality and children's, youth, disability, older people, indigenous groups and migration issues. This undermines any amplified and coherent impact.

### 6. Inadequate attention to mitigating drivers of vulnerability and risk as preventive approaches

Interventions tend to be reactive responses, with inadequate attention to preventive approaches that address structural roots of vulnerabilities, and that build the resilience of those most at risk. For example, interventions tend to focus more on community-based climate adaptation, which is important, but less on mitigation at all levels and sustainable management of ecosystems and natural resources; or on disaster response and less on risk prevention, risk reduction and reduction of risk drivers.[370] For example, 21 Arab countries submitted nationally determined contributions in line with the Paris Agreement, including both mitigation and adaptation measures. Seven countries did not include emissions reduction targets in their submissions.[371] Moreover, there is relatively little investment in much needed sustainable development that provides choices to distress migration, and on interventions preventing rights violations against migrants.

### 7. Scaling up promising community interventions

Promising community-based interventions tend, on average, to be small scale and localized, often unlinked to meso and macro processes, and projectized. Additional effort should be directed at increasing investments in the sustainability and scaling up of these promising community interventions.

### 8. Implementation and accountability deficits

Even where sound policies exist, the gaps between policy, implementation and accountability are large. For example, even if there are drought and flood warning systems, these may not effectively reach all segments of rural populations at scale. The Paris Agreement, the Sendai Framework, the SDGs and the UNGCM have provisions and mechanisms for monitoring and reporting on national and regional implementation. There is a need for more accountability and corrective action on reducing structurally determined risk and vulnerability, especially of the most vulnerable to climate change, disasters and forced migration.

## F. Conclusion

Climate change and extreme events are among the biggest threats to development in the Arab region, and globally. The structural drivers of vulnerability to climate change and disaster risk, and their impacts, including distress migration, are intrinsically embedded in the sustainable development paradigm.

370 Including poverty, inequality, unchecked urban expansion, environmental degradation and weak risk governance.
371 World Resources Institute, 2019.

While migration in the region occurs for diverse reasons, there are also clear links between climate change, disasters and migration, underscored by investment deficits in resilient development. Where direct links between these phenomena are less obvious, declining socioeconomic conditions, coupled with depleted ecosystems and long onset disasters, contribute to migration.

The Arab population is diverse, triggering a differentiated experience of inequality, poverty, climate change, disaster risks and migration among different vulnerable groups, rural or urban, including women, children, informal workers, youth, older and indigenous persons, those with disabilities, migrants and refugees. These groups, their priorities and capacities, are often excluded from policies, programmes and budgets, leaving them further behind. Pre-existing inequalities and vulnerabilities are exacerbated in disaster and climate crises. But these groups also demonstrate capacity to cope, recover and rebuild their lives and communities.

Transcending this situation requires: (a) data production and availability, disaggregated by age and sex/gender, and economic, health, ethnic, nationality and migration status, on the structural drivers and impacts of DRR, climate change and migration; (b) building the leadership of vulnerable populations prioritized in the Sendai Framework and ensuring their sustained representation on decision-making and implementation mechanisms on climate mitigation, and adaptation, reduction of risk and vulnerability to disasters, migration and development; (c) engaging vulnerable population groups and wider stakeholders in addressing implementation and accountability deficits in order to tackle disaster risk governance and CCA deficits and migration; (d) adopting a whole of government and society approach that forges collaborative and coordinated action and capacity development of relevant government ministries and departments and CSOs, for amplified impact; (e) drawing on disaggregated data and consultations with vulnerable populations prioritized in the Sendai Framework to review and reform existing policies, laws, plans, budgets on sustainable development, DRR, climate change, migration and humanitarian response from a nexus perspective; (f) investing in well-designed, sustainably financed, scalable community-based pilots linking disaster resilience, climate change, sustainable development and migration and the specific priorities of vulnerable groups prioritized in the Sendai Framework across these linked agendas.